wwPDB X-ray Structure Validation Summary Report (i)

Oct 5, 2023 – 11:06 PM EDT

PDB ID	:	6V28
Title	:	Complex of double mutant (T89V,K162T) of E. coli L-asparaginase II with L-Asp
Authors	:	Lubkowski, J.; Wlodawer, A.
Deposited on	:	2019-11-22
Resolution	:	1.95 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

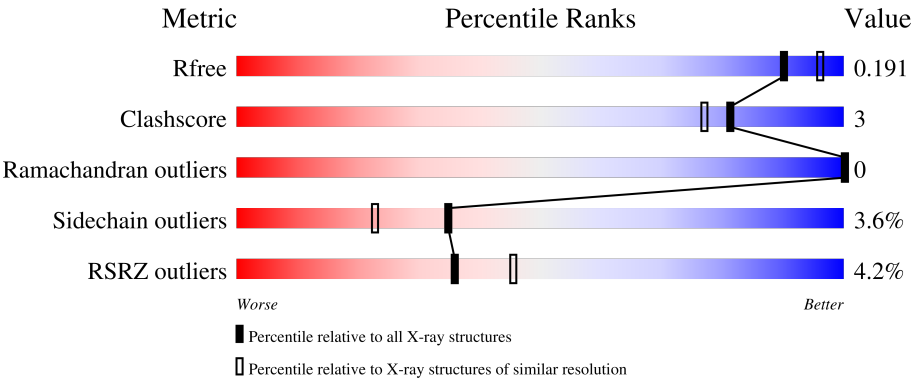
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.95 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2580 (1.96-1.96)
Clashscore	141614	2705 (1.96-1.96)
Ramachandran outliers	138981	2678 (1.96-1.96)
Sidechain outliers	138945	2678 (1.96-1.96)
RSRZ outliers	127900	2539 (1.96-1.96)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	333	2% 88% 9%
1	B	333	8% 89% 8%
1	C	333	2% 88% 10%
1	D	333	5% 88% 9%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	GOL	B	901	-	-	X	X
3	GOL	D	403	-	-	X	-

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 11117 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called L-asparaginase 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	326	Total	C	N	O	S	0	5	0
			2462	1537	418	498	9			
1	B	326	Total	C	N	O	S	0	3	0
			2452	1531	417	496	8			
1	C	327	Total	C	N	O	S	0	3	0
			2462	1538	418	497	9			
1	D	327	Total	C	N	O	S	0	4	0
			2462	1536	418	499	9			

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	MET	-	expression tag	UNP P00805
A	-5	HIS	-	expression tag	UNP P00805
A	-4	HIS	-	expression tag	UNP P00805
A	-3	HIS	-	expression tag	UNP P00805
A	-2	HIS	-	expression tag	UNP P00805
A	-1	HIS	-	expression tag	UNP P00805
A	0	HIS	-	expression tag	UNP P00805
A	12	AEI	THR	modified residue	UNP P00805
A	89	VAL	THR	engineered mutation	UNP P00805
A	162	THR	LYS	engineered mutation	UNP P00805
B	-6	MET	-	expression tag	UNP P00805
B	-5	HIS	-	expression tag	UNP P00805
B	-4	HIS	-	expression tag	UNP P00805
B	-3	HIS	-	expression tag	UNP P00805
B	-2	HIS	-	expression tag	UNP P00805
B	-1	HIS	-	expression tag	UNP P00805
B	0	HIS	-	expression tag	UNP P00805
B	12	AEI	THR	modified residue	UNP P00805
B	89	VAL	THR	engineered mutation	UNP P00805
B	162	THR	LYS	engineered mutation	UNP P00805
C	-6	MET	-	expression tag	UNP P00805

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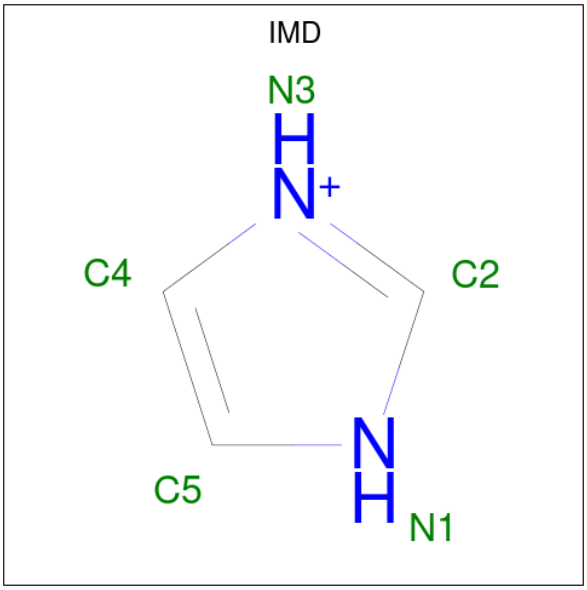
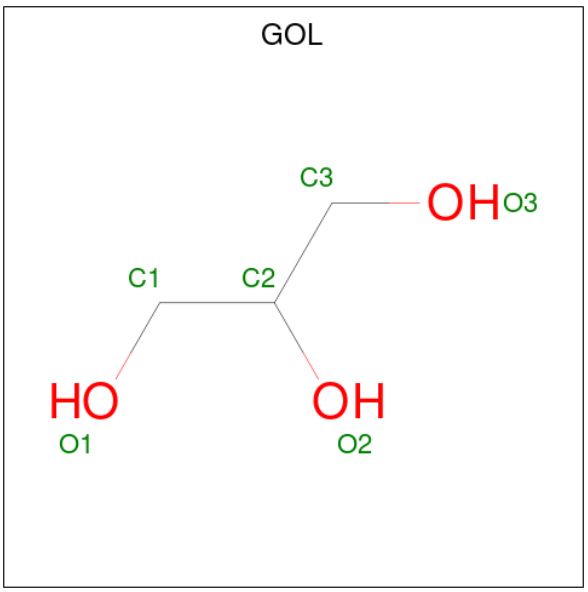
Chain	Residue	Modelled	Actual	Comment	Reference
C	-5	HIS	-	expression tag	UNP P00805
C	-4	HIS	-	expression tag	UNP P00805
C	-3	HIS	-	expression tag	UNP P00805
C	-2	HIS	-	expression tag	UNP P00805
C	-1	HIS	-	expression tag	UNP P00805
C	0	HIS	-	expression tag	UNP P00805
C	12	AEI	THR	modified residue	UNP P00805
C	89	VAL	THR	engineered mutation	UNP P00805
C	162	THR	LYS	engineered mutation	UNP P00805
D	-6	MET	-	expression tag	UNP P00805
D	-5	HIS	-	expression tag	UNP P00805
D	-4	HIS	-	expression tag	UNP P00805
D	-3	HIS	-	expression tag	UNP P00805
D	-2	HIS	-	expression tag	UNP P00805
D	-1	HIS	-	expression tag	UNP P00805
D	0	HIS	-	expression tag	UNP P00805
D	12	AEI	THR	modified residue	UNP P00805
D	89	VAL	THR	engineered mutation	UNP P00805
D	162	THR	LYS	engineered mutation	UNP P00805

- Molecule 2 is IMIDAZOLE (three-letter code: IMD) (formula: $C_3H_5N_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C N 5 3 2	0	0
2	D	1	Total C N 5 3 2	0	0

- Molecule 3 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	1	Total C O 6 3 3	0	0
3	C	1	Total C O 6 3 3	0	0
3	C	1	Total C O 12 6 6	0	1
3	D	1	Total C O 6 3 3	0	0
3	D	1	Total C O 5 3 2	0	0
3	D	1	Total C O 6 3 3	0	0
3	D	1	Total C O 5 3 2	0	0

- Molecule 4 is water.

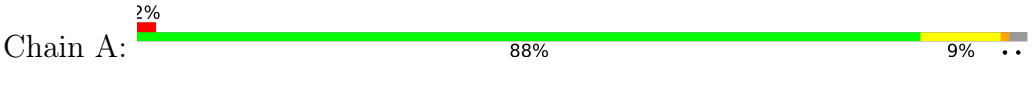
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	281	Total O 281 281	0	0
4	B	235	Total O 235 235	0	0
4	C	368	Total O 368 368	0	0
4	D	339	Total O 339 339	0	0

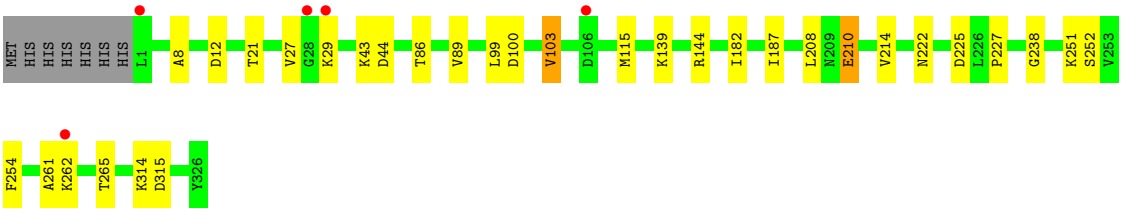
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: L-asparaginase 2

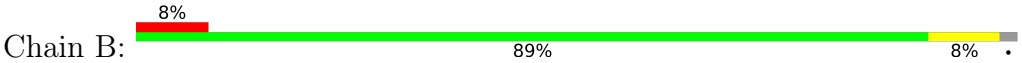
Chain A:

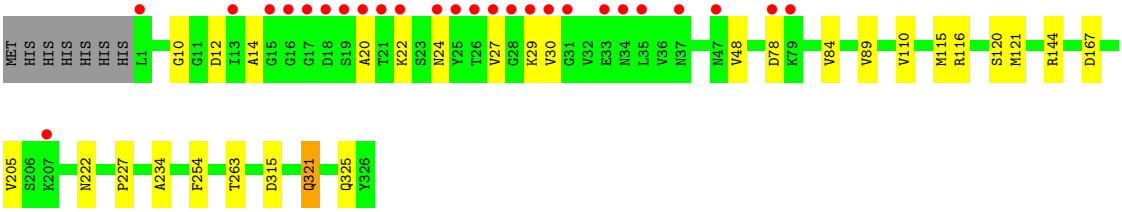




- Molecule 1: L-asparaginase 2

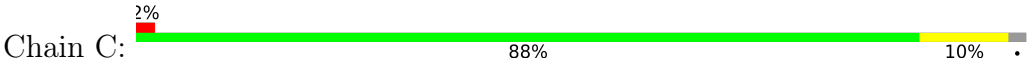
Chain B:

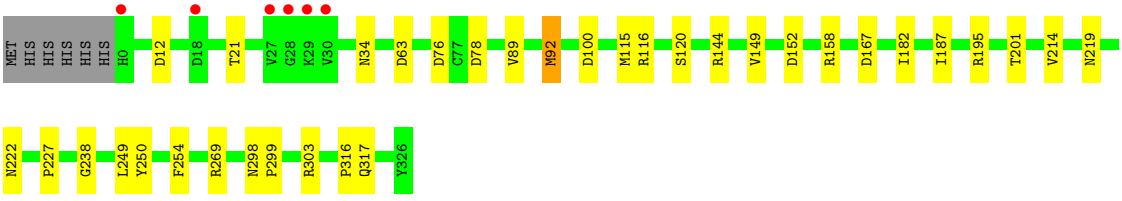




- Molecule 1: L-asparaginase 2

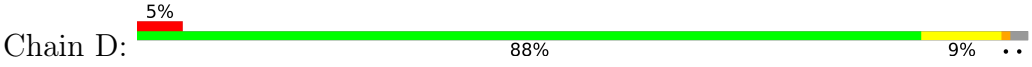
Chain C:

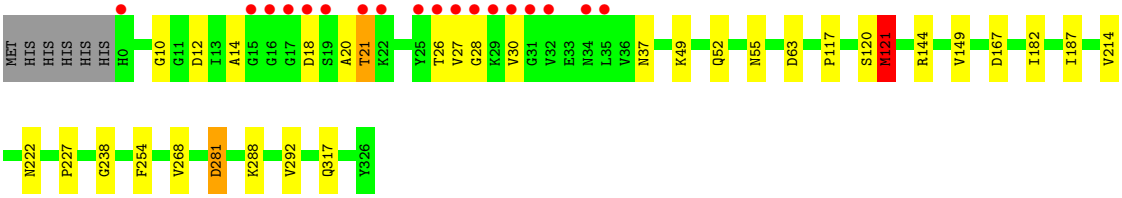




- Molecule 1: L-asparaginase 2

Chain D:




MET
HIS
HIS
HIS
HIS
HIS
H0
G10
G11
D12
I13
A14
G15
G16
G17
D18
S19
A20
T21
K22
Y25
T26
V27
G28
K29
V30
G31
V32
E33
N34
L35
V36
N37
K49
Q52
N55
D63
P117
S120
M121
R144
V149
D167
I182
I187
V214

N222
P227
G238
F254
V268
D281
K288
V292
Q317
Y326

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	151.34Å 62.54Å 141.30Å 90.00° 117.68° 90.00°	Depositor
Resolution (Å)	27.90 – 1.95 27.97 – 1.95	Depositor EDS
% Data completeness (in resolution range)	97.6 (27.90-1.95) 97.7 (27.97-1.95)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.12 (at 1.95Å)	Xtriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.142 , 0.186 0.153 , 0.191	Depositor DCC
R_{free} test set	4018 reflections (4.81%)	wwPDB-VP
Wilson B-factor (Å^2)	22.3	Xtriage
Anisotropy	0.117	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 47.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	11117	wwPDB-VP
Average B, all atoms (Å^2)	27.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 9.82% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: IMD, AEI, GOL

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.88	1/2495 (0.0%)	0.92	5/3397 (0.1%)
1	B	0.86	0/2482	0.91	8/3378 (0.2%)
1	C	1.00	1/2493 (0.0%)	1.02	15/3394 (0.4%)
1	D	0.96	0/2497	1.00	9/3399 (0.3%)
All	All	0.92	2/9967 (0.0%)	0.96	37/13568 (0.3%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	120	SER	CB-OG	-5.25	1.35	1.42
1	A	210	GLU	CD-OE1	5.15	1.31	1.25

The worst 5 of 37 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	281	ASP	CB-CG-OD2	-8.85	110.33	118.30
1	C	92	MET	CG-SD-CE	8.72	114.15	100.20
1	D	167	ASP	CB-CG-OD1	8.12	125.61	118.30
1	B	144	ARG	NE-CZ-NH1	7.92	124.26	120.30
1	C	167	ASP	CB-CG-OD1	7.57	125.11	118.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2462	0	2457	8	0
1	B	2452	0	2449	17	0
1	C	2462	0	2454	9	0
1	D	2462	0	2449	19	0
2	A	5	0	5	0	0
2	D	5	0	5	0	0
3	B	6	0	8	6	0
3	C	18	0	24	1	0
3	D	22	0	26	8	0
4	A	281	0	0	0	0
4	B	235	0	0	1	1
4	C	368	0	0	1	0
4	D	339	0	0	4	2
All	All	11117	0	9877	52	2

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 3.

The worst 5 of 52 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:55:ASN:OD1	3:D:403:GOL:H12	1.66	0.95
1:D:52:GLN:NE2	3:D:403:GOL:O2	2.18	0.76
1:D:10:GLY:HA2	3:D:403:GOL:C1	2.18	0.74
1:D:14:ALA:HB3	3:D:403:GOL:O1	1.87	0.74
1:C:89[A]:VAL:HG21	1:C:115[A]:MET:SD	2.31	0.71

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:546:HOH:O	4:D:786:HOH:O[2_556]	1.95	0.25
4:B:1136:HOH:O	4:D:820:HOH:O[4_556]	2.00	0.20

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	328/333 (98%)	323 (98%)	5 (2%)	0	100	100
1	B	326/333 (98%)	319 (98%)	7 (2%)	0	100	100
1	C	327/333 (98%)	323 (99%)	4 (1%)	0	100	100
1	D	328/333 (98%)	322 (98%)	6 (2%)	0	100	100
All	All	1309/1332 (98%)	1287 (98%)	22 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	270/272 (99%)	257 (95%)	13 (5%)	25	12
1	B	268/272 (98%)	257 (96%)	11 (4%)	30	18
1	C	269/272 (99%)	262 (97%)	7 (3%)	46	36
1	D	270/272 (99%)	262 (97%)	8 (3%)	41	30
All	All	1077/1088 (99%)	1038 (96%)	39 (4%)	35	23

5 of 39 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	222	ASN
1	D	49	LYS
1	C	254	PHE

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Mol	Chain	Res	Type
1	D	21	THR
1	D	222	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 11 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	52	GLN
1	D	64	ASN
1	D	324	ASN
1	D	318	GLN
1	C	219	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains (i)

4 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
1	AEI	D	12	1	11,14,15	0.94	0	14,18,20	1.45	2 (14%)
1	AEI	B	12	1	11,14,15	1.00	0	14,18,20	1.35	1 (7%)
1	AEI	C	12	1	11,14,15	1.22	1 (9%)	14,18,20	1.34	2 (14%)
1	AEI	A	12	1	11,14,15	1.33	2 (18%)	14,18,20	1.44	3 (21%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	AEI	D	12	1	-	5/16/18/20	-
1	AEI	B	12	1	-	5/16/18/20	-
1	AEI	C	12	1	-	5/16/18/20	-
1	AEI	A	12	1	-	5/16/18/20	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	12	AEI	OG1-CD	3.09	1.43	1.34
1	C	12	AEI	OG1-CD	2.89	1.42	1.34
1	A	12	AEI	O-C	2.09	1.28	1.19

The worst 5 of 8 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	12	AEI	OG1-CB-CA	3.39	113.60	105.89
1	D	12	AEI	OG1-CB-CA	3.35	113.51	105.89
1	C	12	AEI	OT2-CH2-CZ	2.70	122.57	113.38
1	A	12	AEI	OG1-CB-CA	2.58	111.76	105.89
1	A	12	AEI	OE1-CD-CE2	-2.50	119.20	124.73

There are no chirality outliers.

5 of 20 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	12	AEI	O-C-CA-CB
1	B	12	AEI	O-C-CA-CB
1	B	12	AEI	OT1-CH2-CZ-NH1
1	C	12	AEI	O-C-CA-CB
1	C	12	AEI	OT1-CH2-CZ-NH1

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

10 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	GOL	D	402	-	3,4,5	0.53	0	1,4,5	0.67	0
3	GOL	D	403	-	5,5,5	0.55	0	5,5,5	0.76	0
3	GOL	D	404	-	3,4,5	1.03	0	1,4,5	1.97	0
3	GOL	D	401	-	5,5,5	0.37	0	5,5,5	0.30	0
2	IMD	D	405	-	3,5,5	0.38	0	4,5,5	0.58	0
3	GOL	B	901	-	5,5,5	0.32	0	5,5,5	0.79	0
3	GOL	C	902[B]	-	5,5,5	0.36	0	5,5,5	0.49	0
3	GOL	C	901	-	5,5,5	0.32	0	5,5,5	0.46	0
3	GOL	C	902[A]	-	5,5,5	0.29	0	5,5,5	0.42	0
2	IMD	A	401	-	3,5,5	0.30	0	4,5,5	0.54	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	GOL	D	402	-	-	2/2/2/4	-
3	GOL	D	403	-	-	2/4/4/4	-
3	GOL	D	404	-	-	2/2/2/4	-
3	GOL	D	401	-	-	2/4/4/4	-
2	IMD	A	401	-	-	-	0/1/1/1
2	IMD	D	405	-	-	-	0/1/1/1
3	GOL	B	901	-	-	0/4/4/4	-
3	GOL	C	902[A]	-	-	2/4/4/4	-
3	GOL	C	901	-	-	2/4/4/4	-
3	GOL	C	902[B]	-	-	4/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 16 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	901	GOL	O1-C1-C2-C3
3	C	902[A]	GOL	O1-C1-C2-C3
3	C	902[B]	GOL	O1-C1-C2-C3
3	D	401	GOL	O1-C1-C2-C3
3	D	402	GOL	O1-C1-C2-O2

There are no ring outliers.

4 monomers are involved in 15 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	403	GOL	7	0
3	D	404	GOL	1	0
3	B	901	GOL	6	0
3	C	901	GOL	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	325/333 (97%)	-0.14	5 (1%)	73	81	19, 27, 45, 65	0
1	B	325/333 (97%)	0.13	26 (8%)	12	19	19, 29, 71, 106	0
1	C	326/333 (97%)	-0.32	6 (1%)	68	76	12, 18, 34, 55	0
1	D	326/333 (97%)	-0.17	18 (5%)	25	34	12, 18, 53, 94	0
All	All	1302/1332 (97%)	-0.12	55 (4%)	36	45	12, 24, 49, 106	0

The worst 5 of 55 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	29	LYS	7.1
1	B	18	ASP	7.1
1	D	26	THR	6.9
1	D	29	LYS	6.7
1	B	19	SER	6.5

6.2 Non-standard residues in protein, DNA, RNA chains

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	AEI	B	12	15/16	0.87	0.12	36,40,51,53	0
1	AEI	D	12	15/16	0.93	0.11	20,26,36,37	0
1	AEI	C	12	15/16	0.95	0.09	17,19,23,24	0
1	AEI	A	12	15/16	0.95	0.08	23,25,27,29	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	GOL	D	404	5/6	0.59	0.28	35,40,44,52	0
3	GOL	B	901	6/6	0.66	0.55	43,46,46,47	6
2	IMD	A	401	5/5	0.76	0.23	54,54,58,59	0
3	GOL	D	402	5/6	0.77	0.21	28,28,29,42	5
3	GOL	D	401	6/6	0.79	0.15	48,52,53,55	0
3	GOL	D	403	6/6	0.82	0.47	62,64,66,66	0
2	IMD	D	405	5/5	0.87	0.21	39,40,42,42	0
3	GOL	C	901	6/6	0.87	0.21	38,50,58,61	0
3	GOL	C	902[A]	6/6	0.94	0.15	26,29,32,33	6
3	GOL	C	902[B]	6/6	0.94	0.15	27,30,32,34	6

6.5 Other polymers (i)

There are no such residues in this entry.